

-11-

WHAT IS CLAIMED IS:

1. A system for remote controlling and monitoring a home appliance, comprising:
 - a first home appliance having a master function;
 - at least one second home appliance having a slave function; and
 - 5 a communication line path for communication between the first home appliance and at least one of the second home appliances.
2. The system of claim 1, wherein a personal computer capable of communicating with exterior appliances is used as the first home appliance.
- 10 3. The system of claim 1, wherein the master includes:
 - an application layer for performing functions of producing a command code and a factor code from packet data of a received message and analyzing a return packet;
 - 15 a data connecting layer for performing functions of constituting a packet of data to be transmitted, producing an error checking code, and repeatedly transmitting the packet if a return packet is a NAK or not found; and
 - a physical layer for performing functions of checking an address of the packet produced in the data connecting layer, determining whether a communication line
 - 20 path between the master and slave is vacant to transmit the packet, and delivering the transmitted packet to the data connecting layer.
4. The system of claim 1, wherein the slave includes:
 - an application layer for performing functions of carrying out a command of
 - 25 the received packet and returning an execution result of the command;

-12-

a data connecting layer for performing functions of transmitting the received packet to the application layer, transmitting a NAK packet if an error is found in the received packet, constituting a return packet, and producing an error checking code; and

5 a physical layer for performing functions of checking an address of the packet produced in the data connecting layer, determining whether a communication line path between the master and slave is vacant to transmit the packet, and delivering the transmitted packet to the data connecting layer.

10 5. The system of claim 4, wherein the data connecting layer and the physical layer are constituted as one module.

6. The system of claim 1, wherein the first and second home appliances communicate with each other in a half-duplex method in which they can
15 communicate with each other in both directions but can not transmit and receive messages at the same time.

7. The system of claim 1, wherein if the first home appliance communicates with a plurality of the second home appliances, the first home appliance firstly transmits and
20 receives one packet to and from one of the second home appliances before starting communication with the next second home appliance.

8. A method for remote controlling and monitoring a home appliance, in which a system and a method for remote controlling and monitoring a home appliance are
25 provided with a first home appliance, a second home appliance, and a communication

line path for communication between the first and second home appliances,
comprising steps of:

- 5 having a first home appliance perform processes of reading information of
the second home appliance to set communication speed and packet length
corresponding to the information, constituting a user command as a first packet with
the preset length, and transmitting it to a second home appliance at the preset speed;
- 10 having the second home appliance corresponding to the first packet perform
processes of receiving the first packet, checking an error, performing the command of
the first packet and constituting the second packet of ACK if any error is not found in
15 the first packet but constituting the second packet of NAK if an error is found in the
first packet, and transmitting one of the constituted second packets to the first home
appliance; and
- having the first home appliance perform processes of checking whether the
second packet is received, and transmitting the next packet or re-transmitting the
15 first packet according to the result.

9. The method of claim 8, wherein the first packet includes:
 - a starting code (STX) of the packet;
 - a requester address, a second home appliance address to which the packet is
 - 20 transmitted;
 - a requestee address, a first home appliance address;
 - a packet length code showing the number of bytes constituting the packet;
 - a message of control orders;
 - a CRC code for error checking; and
 - 25 an ending code (ETX) of the packet.

- 14 -

10. The method of claim 8, wherein the second packet includes:
- a starting code (STX);
 - a requester address, a first home appliance address to which the packet is
 - 5 transmitted;
 - a requestee address, a second home appliance address from which the packet
 - is transmitted;
 - a packet length code showing the number of bytes constituting the packet;
 - a control command code and executing or non-executing code;
 - 10 a CRC code for error checking; and
 - an ending code (ETX) of the packet.
11. The method of claim 8, wherein if the amount of the user command data is
- more than a preset amount in the second step, the first packet is constituted by being
- 1.5 divided and the communication speed is adjusted.